

Claims

1. A method, performed by a search engine, comprising the steps of:
determining tokens;
assigning related expressions to each of the tokens responsive to the step of determining to
5 define each of the tokens;
searching documents responsive to the step of assigning;
identifying occurrences of any of the related expressions for any of the tokens in any of the
documents responsive to the step of searching; and
assigning each of the documents, having at least one of the related expressions for at least one
10 of the tokens, to the at least one of the tokens responsive to the step of identifying to create an index.
2. A method according to claim 1 wherein the related expressions for one of the tokens is the same
for at least one other of the tokens.
- 15 3. A method according to claim 1 wherein the related expressions for each of the tokens is
different for each of the tokens.
4. A method according to claim 1 further comprising the step of:
assigning related tokens to one of the tokens responsive to the step of providing to further define
20 the one of the tokens.
5. A method according to claim 1 wherein the step of indexing further comprises the step of:
organizing the related expressions for each of the tokens in the index.
- 25 6. A method according to claim 1 further comprising the step of:
providing information about the tokens to a user of the search engine.

7. A method, performed by a search engine, comprising the steps of:
 receiving a search query;
 identifying at least one token in the search query responsive to the step of receiving, wherein
 related expressions are assigned to the at least one token;
- 5 finding the at least one token in an index to identify documents, having an occurrence of at least
 one of the related expressions for the at least one the token, corresponding to the at least one the token
 responsive to the step of identifying; and
 providing information related to the documents responsive to the step of finding.
- 10 8. A method according to claim 7 wherein the step of identifying further comprises the step of:
 detecting a predetermined character that identifies one or more keywords as the at least one
 token.
- 15 9. A method according to claim 7 further comprising the step of:
 providing feedback related to the accuracy of the at least one token.

10. A method, performed by a search engine, comprising the steps of:

performing a background routine, during a first amount of time, comprising the steps of:

determining tokens;

assigning related expressions to each of the tokens responsive to the step of determining to

5 define each of the tokens;

searching documents responsive to the step of assigning;

identifying occurrences of any of the related expressions for any of the tokens in any of the documents responsive to the step of searching; and

10 indexing each of the documents, having at least one of the related expressions for at least one of the tokens, corresponding to the at least one of the tokens responsive to the step of identifying the occurrences; and

performing a foreground routine, during a second amount of time substantially less than the first amount of time, comprising the steps of:

receiving a search query;

15 identifying at least one token in the search query responsive to the step of receiving;

finding the at least one token in an index to identify documents, having an occurrence of at least one of the related expressions for the at least one the token, corresponding to the at least one the token responsive to the step of identifying the at least one token; and

providing information related to the documents responsive to the step of finding.

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11. A method, performed by a user interface device, comprising the step of:
- receiving from an input source a search query that includes at least one token, wherein related expressions are assigned to the at least one token;
 - sending the search query to a search engine responsive to the step of receiving; and
- 5 receiving from the search engine information related to documents, having an occurrence of at least one of the related expressions for the at least one the token, responsive to the step of sending.

TOGETHER

12. A system for searching and retrieving documents comprising:

a database adapted to store documents;

a memory device adapted to store software, tokens and an index, wherein the software includes a background routine and a foreground routine, wherein each token has related expressions

5 assigned thereto, wherein the index has documents, having an occurrence of at least one of the related expressions for at least one of the tokens, assigned to the at least one of the tokens;

a user interface device adapted to accept and send search queries having at least one token and to receive information related to the documents, having an occurrence of at least one of the related expressions for the at least one of the token; and

10 a controller electrically coupled to the memory device, the user interface device and the database, and adapted to manage communications between the memory device and the user interface device responsive to the foreground routine in the software to respond to the search queries having the token, and adapted to manage communications between the memory device and the database responsive to the background routine in the software to create the index.

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13. A search engine comprising:

a memory device adapted to store software, tokens and an index, wherein the software includes a background routine and a foreground routine, wherein each token has related expressions assigned thereto, wherein the index has documents, having an occurrence of at least one of the

5 related expressions for at least one of the tokens, assigned to the at least one of the tokens; and

a controller electrically coupled to the memory device, a user interface device and a database, and adapted to manage communications between the memory device and the user interface device responsive to the foreground routine in the software to respond to search queries having a token, and adapted to manage communications between the memory device and the

10 database responsive to the background routine in the software to create the index.

FOOTNOTES

14. A system for searching and retrieving documents comprising:

a database adapted to store documents;

a memory device adapted to store software, tokens and an index, wherein the software includes a background routine and a foreground routine, wherein each token has related expressions

5 assigned thereto, wherein the index has documents, having an occurrence of at least one of the related expressions for at least one of the tokens, assigned to the at least one of the tokens; and

a controller electrically coupled to the memory device, the user interface device and the database, and adapted to manage communications between the memory device and the user interface device responsive to the foreground routine in the software to respond to search queries

10 having a token, and adapted to manage communications between the memory device and the database responsive to the background routine in the software to create the index.

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